12.3.56

SUBJECT: Longview Fibre Company
Seattle, Washington
Subsurface Investigation - October 20, 1989
Phone Conversations - October 23 and 24, 1989

TO: File, Dan Cargill

FROM: Barbara J. Trejo

1000 - arrived at Longview Fibre to observe the test pit investigation in the vicinity of monitor well MW-3. The investigation is part of the company's evaluation of subsurface hydrocarbon contamination and specifically evaluates the existing lateral extent of floating product on the groundwater table in the vicinity of MW-3. Work had begun prior to my arrival. I met Gary Smith, Longview Fibre, and Paul Townley, CH2M Hill, at my arrival on site.

Product and water levels were taken at MW-3 prior to beginning the test pit excavations. Paul Townley reported that the top of the product was 5.5 feet below grond surface and top of groundwater was 7.3 feet below ground surface. Therefore, product thickness is approximately 1.8 feet. Gary Smith indicated that no product has been removed since the company decided to begin additional assessment work - approximately one month ago.

According to Paul, water levels in the adjacent Duwamish River were at high tide levels. I walked along the bank to check for floating product; no product was observed.

Four test pits were excavated on October 20, 1989 using a rubber tire backhoe. Excavated soils were checked periodically as they were removed from the test pits with an HNU calibrated to isobutylene to determine approximate contaminant levels of the soils. Soils with readings below 5 ppm were considered clean while soils greater than or equal to 5 ppm were considered contaminated. These concentrations were selected by CH2M Hill based on their field experience with petroleum contaminated soils and the assumption that an HNU reading of 5 ppm was equivalent to 200 ppm total petroleum hydrocarbons. 200 ppm is the current Ecology cleanup level for petroleum contaminated soils.

Clean and contaminated excavated soils were segregated and stockpiled on visqueen. Composite samples were collected from both stockpiles at the completion of the test pits and were submitted to CH2M Hills laboratory over the weekend. Both stockpiles were covered with visqueen at the end of the investigation.

All four test pits were left open at the completion of the investigation in order that the water surface could be observed. The pits will be left open until Monday morning when the groundwater surface will be checked for floating product. 4-inch slotted pvc was installed in each open test pit so that product level could be checked with a product level probe.

Each test pit was covered with wooden pallets at the completion of the each excavation for safety purposes. Paul indicated that visqueen would be placed over the pallets to prevent rainfall from collecting in the pits.

Paul Townley collected one sample from each test pit for total hydrocarbon analysis. These samples were collected above a clay layer encountered in the test pits. One clay sample was collected and submitted for total hydrocarbon analysis to determine, according to Paul Townley, whether the clay was acting as a barrier to petroleum migration. No additional samples were collected from the test pits because Paul felt that they would not accurately represent specific depths in the test pits.

Test Pit S10 (located 10' south of MW-3)
The test pit was excavated prior to my arrival on site. Paul Townley indicated that a perched water zone was encountered at approximately 6.5 feet below ground surface. The HNU readings for the upper 3.5 feet were below 5 ppm; HNU readings from 3.5 to 6 feet ranged from 5 to 20 ppm; below 6 feet, the HNU readings dropped but were still above 5 ppm. The soils had a moderate petroleum odor. Wood debris including pilings were encountered in the test pit. Light seepage was noted from the test pit walls and water was collecting in the bottom of the pit. No petroleum product was noted on the water table while I was on site.

Test Pit W10 (located 10' west of MW-3)
The HNU readings for the upper 3.5 feet of soil were below 5 ppm and exceeded 5 ppm below 5.5 feet. A strong petroleum odor was noted during excavation of the contaminated soils. Large timbers were encountered during the test pit excavation. Groundwater was encountered at 5.5 feet below ground surface and the flow into the test pit was moderate. Product was noted on the groundwater surface and the thickness was approximately 1/4 inch thick. Paul collected a small sample for potential analysis. A vacuum truck will be brought to the site Monday to pump off the surface product.

Test Pit N10 (located 10' north of MW-3)
The HNU readings from the upper 4.5 feet of soil were below 5 ppm and ranged from 5 to 10 ppm below 4.5 feet. Wood was encountered at 4 feet below ground surface and a timber pile was encountered at 6 feet at the west end of the test pit which could not be removed by the backhoe. Very light seepage was noted at 6 feet below ground surface and another area of seepage was noted at 7.5 feet. No floating product was noted in the test pit while I was on site. A silty sand fill was encountered from 0 to 7 feet below ground surface; a clayey silt was encountered from 7 to 9 feet.

Test Pit W20 (located 20' west of MW-3)
The HNU readings from the upper 3 feet of soil were below 5 ppm and ranged from 6 to 25 ppm below 3 feet. A clay/silt unit was encountered from 6 to 6.5 below the ground surface. Large wood timbers were encountered at 4.5 feet. Very light to light seepage was noted in the test pit from 5.5 to 6 feet. No floating product was noted on the groundwater surface while I was on site. The test pit was terminated at 8 feet below ground surface.

PHONE CONVERSATION WITH PAUL TOWNLEY, CH2M HILL - 10/23/89

Paul indicated that Gary Smith had noted floating product on the test pit S10 groundwater surface this morning and that they were going to be excavating two additional test pits north and south of monitor well MW-3 later this morning (1130).

The unofficial results of the TPH analyses were provided to me by Paul Townley. The results are as follows:

Clean Stockpile	- two samples: 5 and 8 ppm TPH
Dirty Stockpile	- two samples: 4280 and 5970 ppm TPH
Test Pit W10	- above clay unit: 216 ppm TPH
Test Pit W20	- above clay unit: 6920 ppm TPH
" " W20	- clay unit: < detection limit (6 ppm)
Test Pit N10	- above clay unit: 283 ppm TPH
Test Pit S10	- above clay unit: 1810 ppm TPH

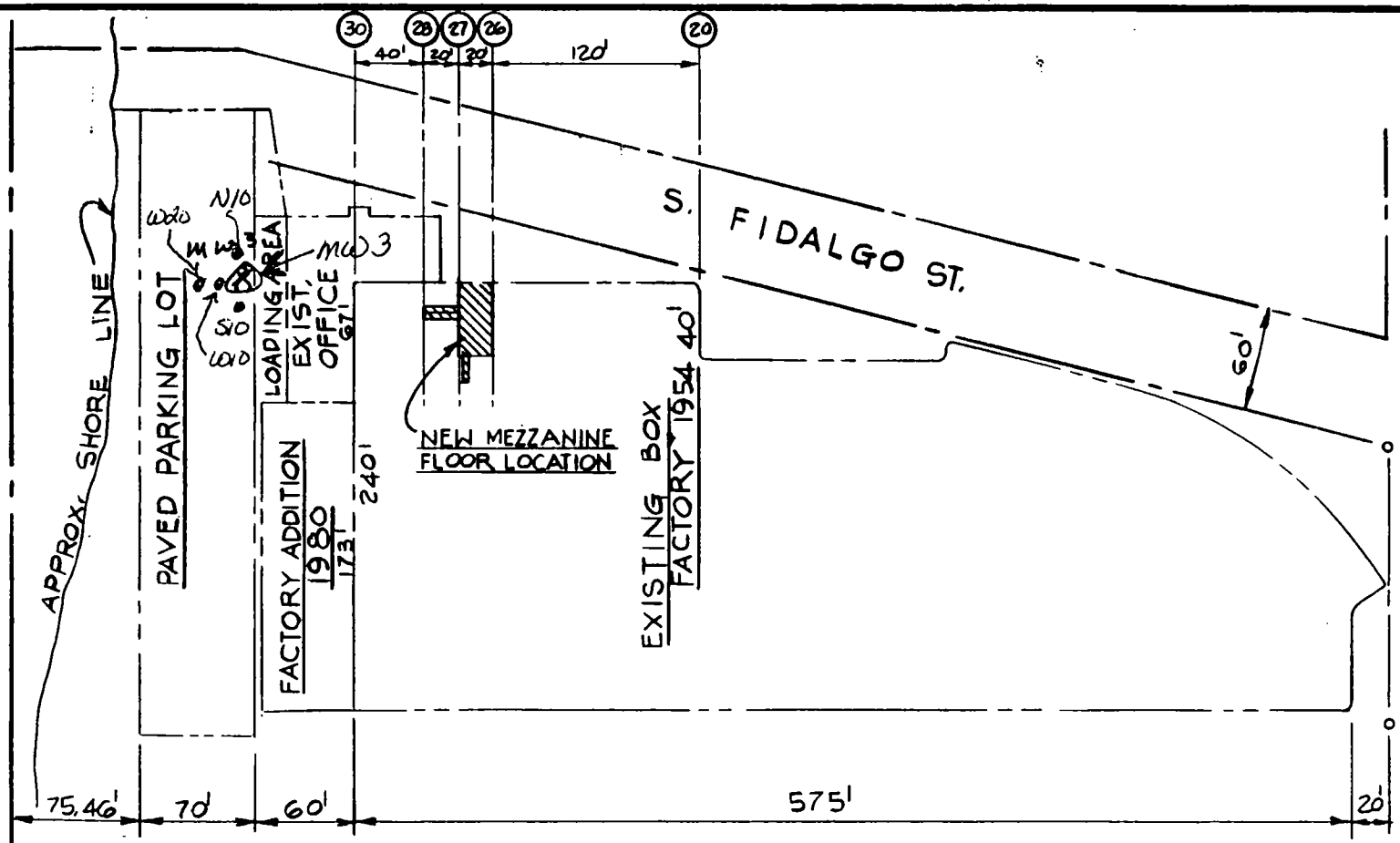
PHONE CONVERSATION WITH DAVID MENDENHALL, LONGVIEW FIBRE - 10/24/89

David reported that three additional test pits were excavated yesterday (10/23/89) instead of two as explained above. Product was noted on the groundwater surface of all the initial test pits excavated on Friday (10/20/89). The exact location of the new test pits was not available. Longview Fibre will not backfill any of the test pits this week. David indicated that if Ecology wants to observe the test pits that we should contact Gary Smith.

David requested a meeting between Ecology and Longview Fibre to discuss the company's options. A meeting was scheduled for Monday, October 30, 1989. I requested that David provide us with field data prior to our meeting. He will have Paul Townley get this to us.

Additional samples were collected during excavation of the new test pits; test results have not been completed yet.

2" 1" = 1'-0" 1" = 1'-0"



SITE PLAN

1" = 100'-0"

NORTH

APPROVED	
BY	DATE
BY	DATE

W. O. No.	CHARGE

PEARSON, PAPE, ALLEN & HUGGINS, INC. - JOB NO. 81-11

APPD.	No.	REVISIONS	BY	DATE

LONGVIEW FIBRE COMPANY

LONGVIEW, WASHINGTON

SEATTLE BOX PLANT

MEZZANINE FLOOR ADDITION

10/30/89 1400 –

Longview Fibre – 2 UST.

Seattle Box Plant.

Well MW-2 Pumping test	Test Data		Product?
9-6-89	Pumped 5 min	drawdown ~ 4 ft	NO
	Recover 10 min		
	Pump 10 min	drawdown ~ 2 ft	NO
	recover 10 min		
	Pump 15 min	Drawdown ~ 5 ft.	NO
9-7-89	check static water level		NO
10-3-89	Pumped 4 hrs.	Draw Down ~ 8.5 ft	NO.

MW3 - could not bail dry but could induce drawdown.

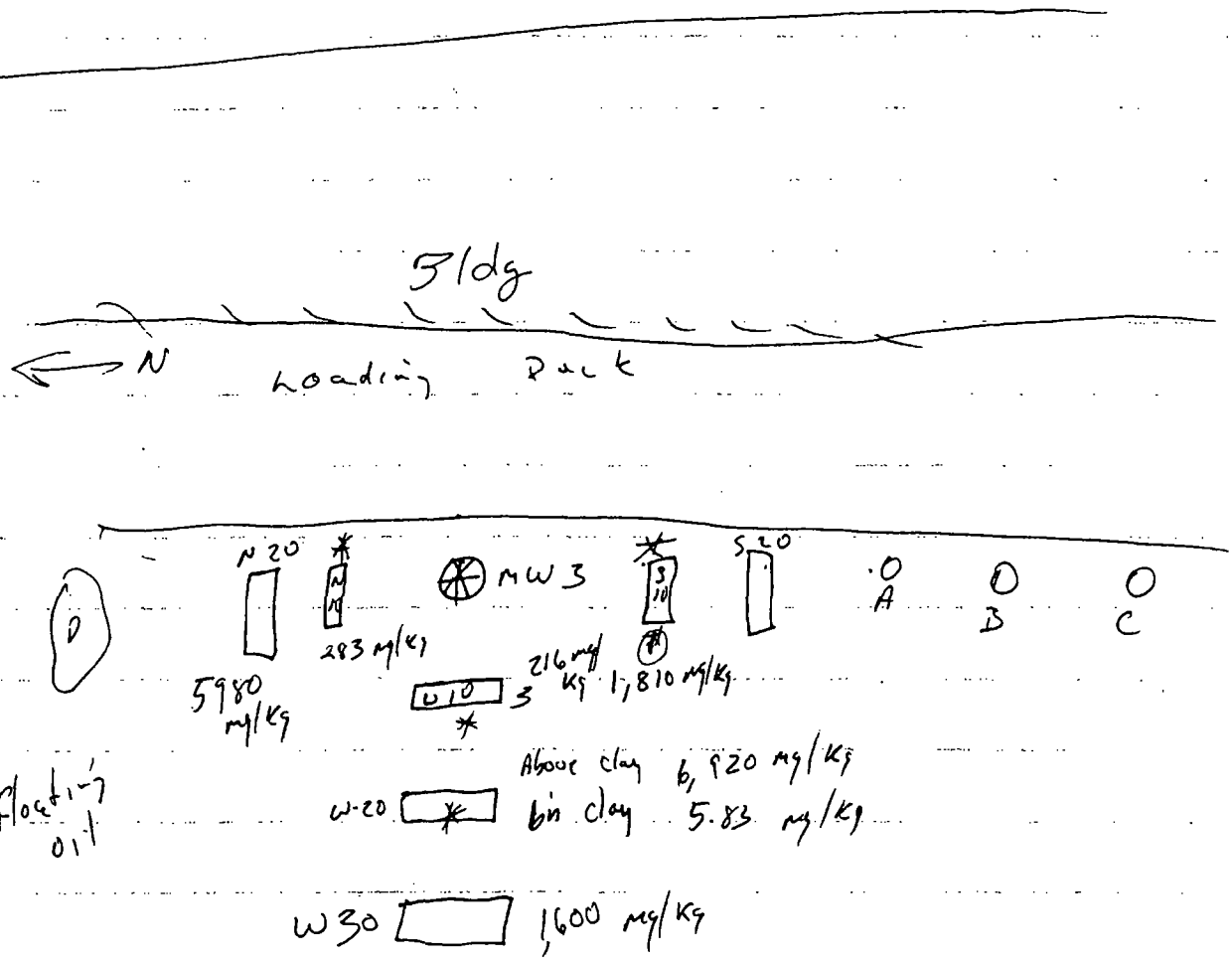
Pumping rates - on order of 2-3 GPM -

2 gpm x 60 = 120 gal/hr x 4 hr = 480 Gal.

Found subsurface conditions around plant are complex.

TPH at MW-2 < 1 ppm. - (MW-2 Diesel)

Also did BCTX - used method 418.1 for TPH.



Excavated Pit (soils)

				Est vol
A	clean	8.0 J	5.0 U	mg/kg
B		5,970	4,280	" " 12 yds
C		2,340	mg/kg	8 yd³
P	clean	40.4 mg/kg		–

Summary of air Layer Thickness observations

Backfill N20
S20
W20 } w/ A + D pits

Next would be (W20)

Running Tally by pit.